

# Supplementary Information

Supplementary information for the report from the second PLURALAKES stakeholder workshop, English Lake District, UK. *“Identifying pathways towards positive nature futures for lakes.”* 12/02/2026.



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# 1. Broadcast from 2050: Revisiting future visions for the Lake District.

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In this section we present the three short stories on “a day in the life” of a character in each of the future visions representing each of the three Nature Futures Framework value perspectives; Nature for Nature, Nature as Culture and Nature for Society. These were printed and given to participants to read in groups of three individuals.

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**Nature as Culture (read time ~5mins)**


**Supplementary Figure 1.** Graphic representation of the group name selected by members who aligned most closely with Nature as Culture. Created by Bethan Thorsby, Sporadic Illustration.

You hear the familiar trill of a reed bunting and smile as your daughter skips along the well-trodden lakeside path beside you, proudly swinging the bird feeder she just made from her arm as she goes. The lakeside path is busy with other people also enjoying nature. Yet despite the people, you sense that familiar stillness, that shared peace and tranquillity you always feel when wandering through this sacred place.

“He’s gone!” The despair in your daughter’s voice breaks the stillness. Her red squirrel cuddly toy that goes everywhere with her is nowhere to be seen.

“I’m sure he can’t be far away. Let’s retrace our steps back to the nature guardian’s workshop and ask the other children from your nursery. We’ll keep a lookout for him as we go. It will be an adventure!”

Hand in hand, you both walk back down the lakeside path.

“Phew! What is that smell?!” Your daughter crinkles her nose, eyes watering at the pungent smell.

“Whoops! Looks like you’ve stepped in some otter spraint,” You laugh and help her scrape her shoes off. “We better watch our step here; there’s spraint all over. Look, you can even see the fish scales from what it was eating from the lake.”

Stepping carefully, you continue retracing your steps down the wide, smooth path. You pass Henry taking his lakeside yoga class through some complex routines. Further down, you smell the sweet aroma of meadowsweet and hear the familiar buzz of honeybees happily feasting on it. You make a mental note to remember to visit Sarah at her lakeside apiary on the way back to buy more of her delicious honey.

Just off the path, you spot an old couple, one sitting on the bench and another in a wheelchair, sheltering from the sun in the dappled shade of an alder tree. They are looking out into the lake, both with binoculars glued to their faces.

“Have you seen my squirrel?” your daughter asks them as you pass.

“No squirrels here, dear,” the lady smiles.

You arrive back at the nature guardian’s workshop. The wooden table and benches outside are now clear of all the tools and materials the children were using to build the bird feeders. You see Harriet the guardian packing the last few items away.

“Have you seen my squirrel? I think I left him here,” your daughter asks Harriet.

“Oh no, did you lose it? No red squirrels here, I’m afraid,” Harriet winks. “We don’t want them near the bird feeders. You know, there’s so many of them now, we certainly don’t need to be feeding them.”

You thank Harriet and wander back up the path.

“I hope he’s okay,” your daughter says.

“I’m sure he will be. Everyone looks out for each other, no matter the species. Remember what we say?”

“Nature looks after us, and we look after Nature,” your daughter mumbles sadly.

To your right, the alder trees give way to a small beach where a group of people are listening to an officer from the Community Water Group. The man has a little table set up in front of the lake, on top of which are some water samples in little glass bottles, and sat beside those is a red squirrel cuddly toy. *Your daughter’s* red squirrel cuddly toy.

“... and the plants along the edge of the lake have since recovered” the officer is saying to the group. “Because of that and many things we’ve accomplished, we can all safely swim and enjoy the lake alongside the plants and animals that also live here.”

As you approach the water quality officer, your daughter spots her red squirrel cuddly toy on the table.

‘Squirrel!’ she shouts happily. She hugs the toy and all is well in the world.

You smile and look out across the lake. Several pink floats bob along the surface, indicating the presence of long-distance swimmers, while the brilliant flashes of many different dragon and damselflies dance above. Further along an osprey dives, swiftly returning, clutching a brown trout flicking glistening water droplets as it struggles. In the distance you see the mountains rising up from the lake edge, a patchwork of woodland, meadow and montane scrub on the higher slopes. You feel a calm serenity, a harmony, a deep sense of belonging.

Quietly you repeat your mantra. ‘Nature looks after us, and we look after Nature.’

**Nature for society (read time: about 3mins)**



**Supplementary Figure 2.** Graphic representation Nature for Society vision. Created by Bethan Thorsby, Sporadic Illustration.

The letters pulse brightly on your digital device.

Talla has flown outside his nest again.

You sigh, not with irritation, but with an impatient excitement.

You make your way along the well-known path to the lake. The fells rise dramatically on either side, mirrored in the lake’s calm waters, while the mountain tops crown the horizon in the distance.

You pass three tourists who are stopped at the well-used boat washing station, rinsing off their kayaks to prevent the spread of invasive species. They shriek and dip down as drones fly a little too close overhead. The drones are off to work, too— pollinating, monitoring, and carrying seeds. *Those little things are everywhere these days.*

“Out of the way, drones!” Measured footsteps approach. A group of citizen scientists who you often collaborate with marches past the swarm. They are mostly retirees, but also a few teenagers, and are heading towards the lake with sampling nets and Secchi disks in hand. *I’m not sure who has more energy in that group: the pensioners or the teenagers.*

You stop at a pier to enjoy your breakfast—a bap you picked up from Farmer Andrew’s stand at the market in town—and enjoy the view. You drink the rest of your water to wash down the bap, then reach down into the lake to refill your bottle.

“Look mum, a scientist!” A young girl’s voice bursts with wonder, eyes wide, glowing.

“Yes,” the mother replies, smiling. “One of our local ecologists. You have to study for many years to become one, but then you get paid to spend all day in nature. But first, you need to listen to your teachers. And keep your room clean.”

The daughter absorbs the cost in silence. Then, softly: “Okay. When we get home.”

You chuckle under your breath, turning to reach Talla’s nesting site at the northern side of the lake.

You pull up the latest protocol on your pocket device. Species status scrolls past. *Badger: stable.* Once poisoned, trapped, erased from political conversations. Now their paths crisscross the forest floor again. Talla’s profile shows up: *Golden Eagle, nesting.*

You climb into the old oak overlooking the lake. Your breathing slows. This is where observation turns into something closer to listening.

You scan the landscape. You see the river threading through marshy ground and woodlands, its vibrant riparian edges carving a living line through the trees. Nearby, the ground shows signs of managed grazing in woodland pasture —Andrew’s sheep at work. Even sheep, it turns out, can be great colleagues.

Your view shifts towards the lake. Down at the public beach, a swimming lesson is underway: children laugh and shriek as they learn, their parents relaxing and soaking up the sun nearby. Further out, a sudden ripple breaks the surface—a trout or salmon hunting its midday snack of the recent fly emergence that dances over the water. The fish slips beneath the shadow of a circling osprey to narrowly avoid becoming a snack itself. From the reedbed, a deep, resonant boom rolls across the water: a bittern, once nearly silenced, staking its claim once more.

You take in this view and all it embodies—humans and nature coexisting, a living expression of the partnership between your community and the lakes. The community knows that

when these species—and the waters they depend on—thrive, so too does everything and everyone around them.

You climb higher, finally reaching Talla’s nest. You gasp as you see it: Talla’s nest, his mate, and... eggs! Finally.

**Nature for nature (~3.5 mins read time)**



**Supplementary Figure 3.** Graphic representation of the Nature for Nature vision. Created by Bethan Thorsby, Sporadic Illustration.

It’s morning, the lake is quiet, its surface like glass. The only sounds are a symphony created by nature: bitterns boom, frogs croak, and trout splash as they jump out of the mirror-like surface to catch their breakfast as the fly rise from the surface. It *almost* feels like humans no longer exist here.

This is your favourite part of the day; the entire reason that, even after two decades, you happily leave the coziness of your bed to get ready for work. As a Nature Guardian, you monitor and enforce nature protection across the Lake District.

These days, when new people are hired, you are usually the one who trains them. Normally, you don’t mind—the new recruits’ enthusiasm for the work energizes you. But this morning, the newly graduated hire, Phil, is late. While you appreciate the extra time to enjoy your coffee—enjoying the peace amongst the wilderness—today you have far too much to do.

After 15 minutes, you call Phil to see what is going on. He picks up after a single ring. “Hello?”

“Phil, you’re late—where are you?” you ask.

“This is awkward, but I cannot find the start of the trail.”

You massage your temple in frustration. With today’s technology, how on earth did this kid manage to get lost?! “Right, I’ll come find you. Meet me at the entrance to the wilderness reserve.”

You backtrack through the underused trail, trees, shrubs and groundcover expanding across the path. You and the other guardians are the only ones who use it; this section of the lake is not open to the public. After about 10 minutes of walking, you find Phil waiting at the end of the unpaved road that runs along former pastureland.

“I am so sorry!” he says, clearly flustered. “I tried to follow the map and your directions, but for the life of me, I could not find the start of the trail. I’ve never actually been to this part of the lake before.”

“It’s fine, Phil.”

“It’s just embarrassing to be late when meeting the most experienced supervisor in the company.”

You smile at the comment.

“Well, to be fair, most people don’t come here anymore—this area has been left for nature to do its thing. But let’s get a move on! We’ve got work to do.”

Setting a brisk pace, you reach the lake quickly. You gesture to Phil to sit on a fallen log along the shoreline, your gaze moving across the water, the mountains looming in the distance.

“Our role as guardians has changed over time. Because attitudes amongst the community and visitors have shifted towards respecting and appreciating the need to give space to nature, we spend less time enforcing. Instead, you will spend most of your time monitoring the functioning of these lakes and educating the community on how they work.”

Phil eagerly writes this down in his notebook as you take a sip of your coffee.

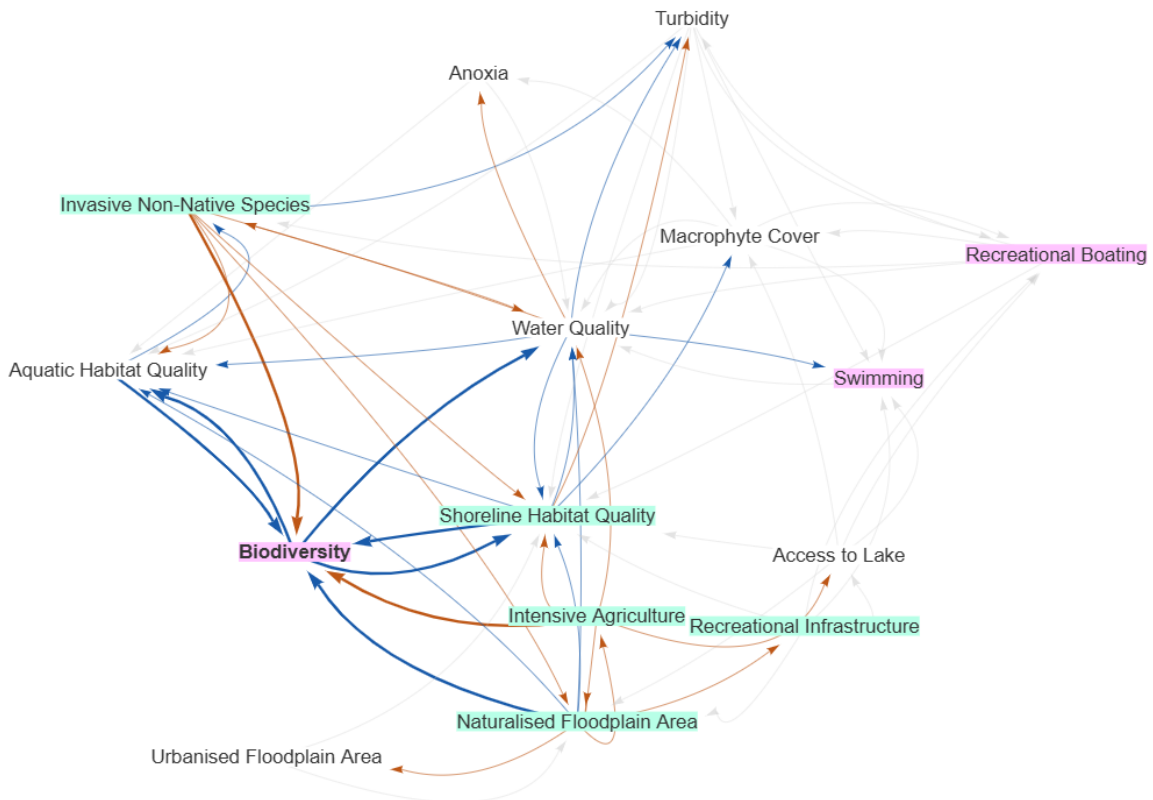
“Before I started this job about 20 years ago, there was no shoreline vegetation, hardly any diversity within the lake and in the surrounding landscape, and it all felt so uniform. Yet somehow, people thought it was beautiful. Can you imagine?”

Phil takes in the surroundings in quiet contemplation: the mosaic that is the surrounding landscape, the vegetated shorelines, submerged and emergent plants, that protect schools of fish, the insect and other life teeming in every nook and cranny. After a minute, he responds. “No, I really can’t imagine it. Maybe it is more “messy”, but this view that I see in front of me—a lake that is healthy and thriving—could not be more beautiful.”

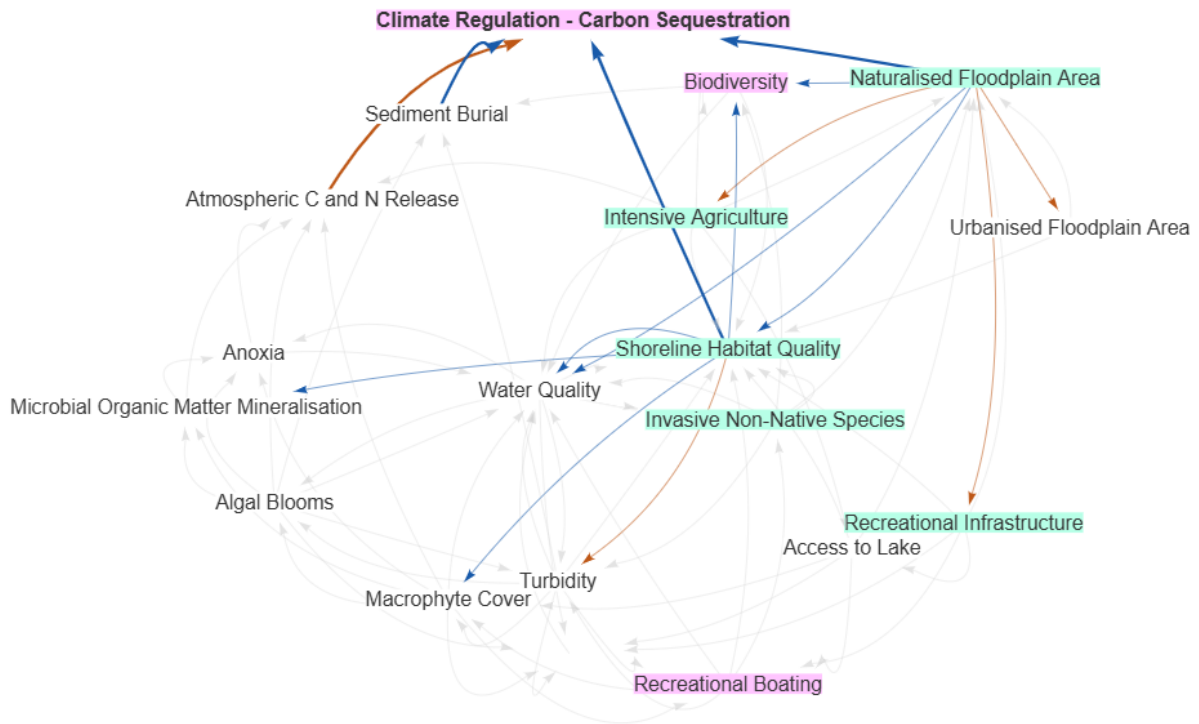
You smile and think to yourself that despite his youth and poor sense of direction, perhaps this nature guardian-in-training will do just fine.

# 2. Causal Loop Diagrams

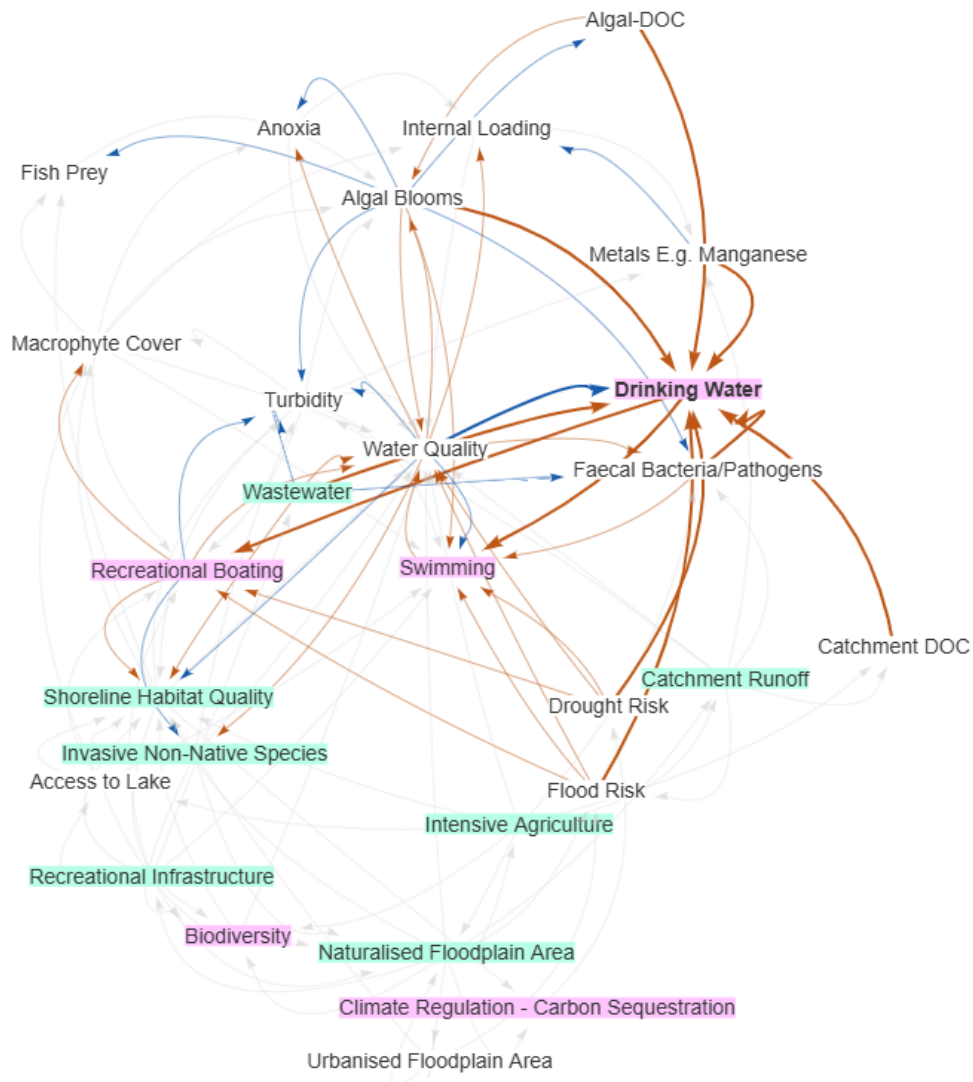
In this section we present the Causal Loop Diagrams that were presented to the participants as posters placed around the room during the workshop. These are works in progress and details on the methodology of their composition can be found in section 3.3.4. of the main report. In brief, they have been designed to conceptualise the feedbacks and interactions of the ecosystem services that the lakes of the English Lake District provide.



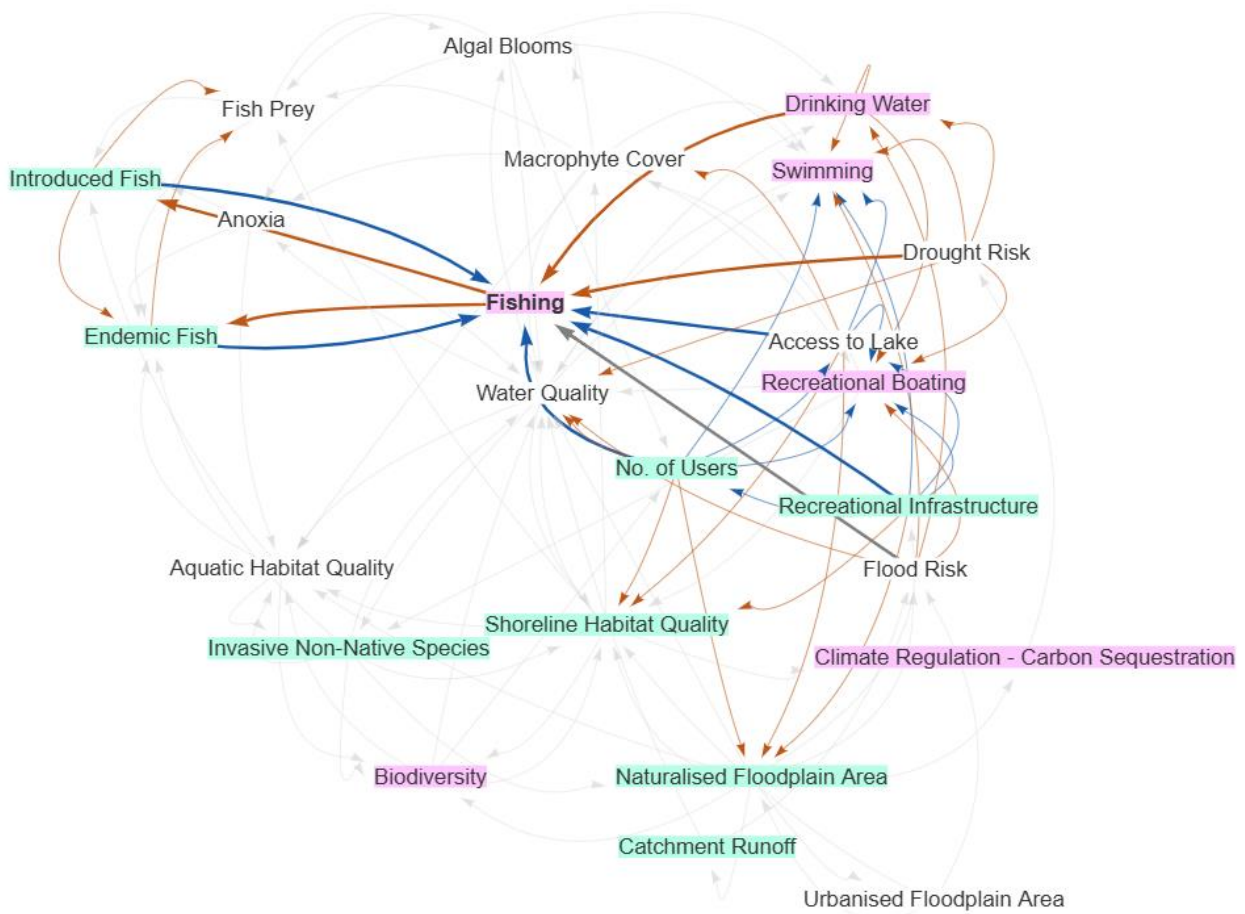
**Supplementary Figure 4.** Causal loop diagram for the lakes of the lake district ecosystem service of Biodiversity.



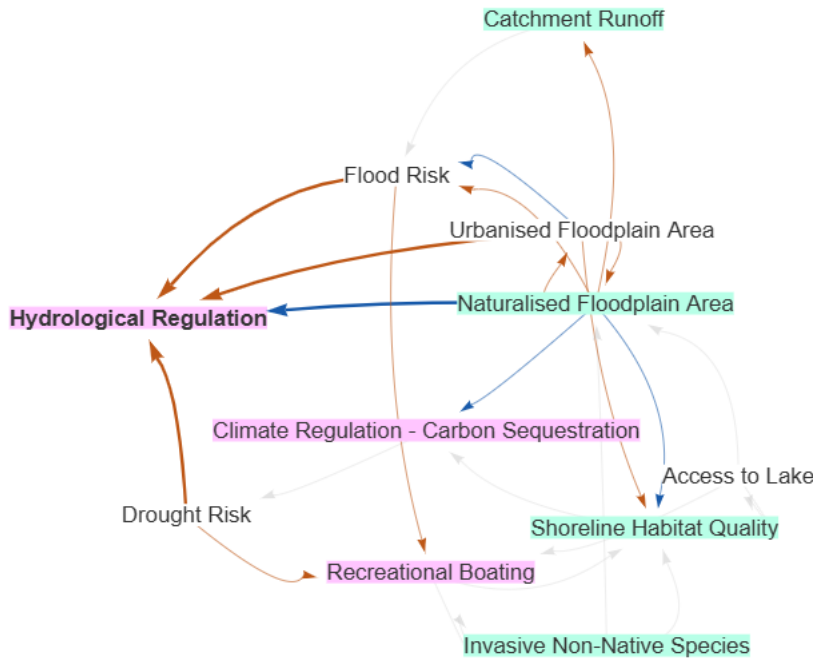
**Supplementary Figure 5.** Causal loop diagram for the lakes of the lake district ecosystem service of climate regulation.



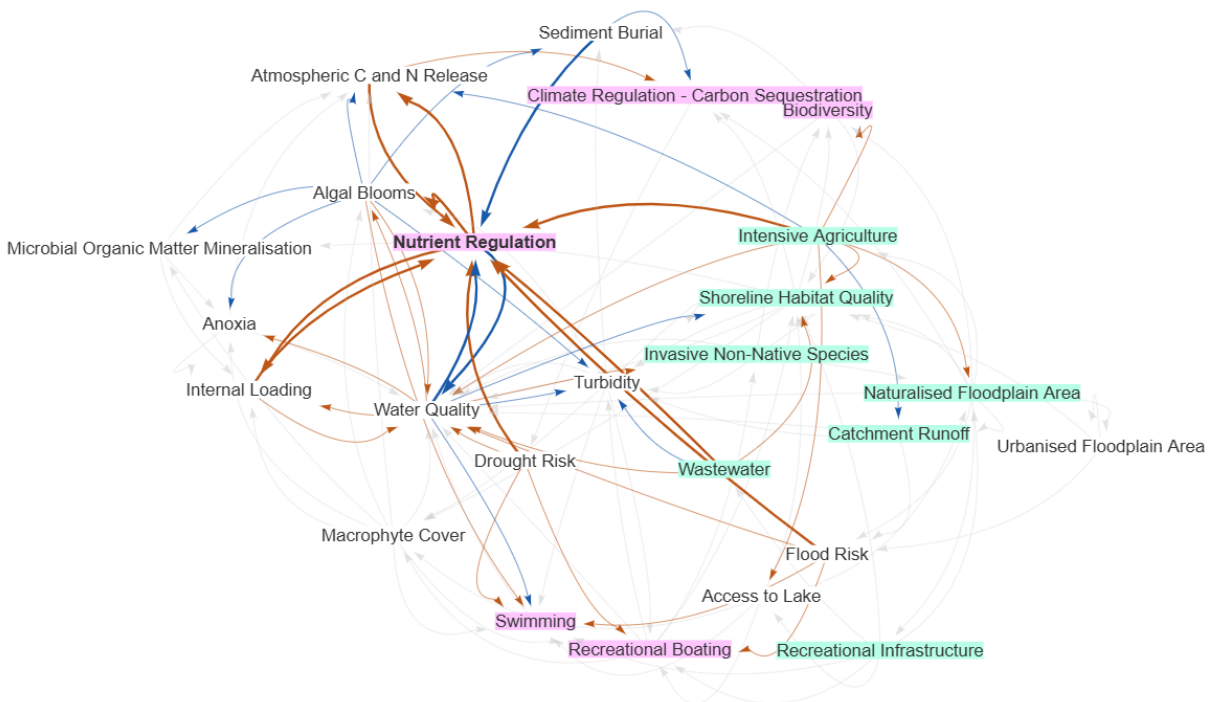
**Supplementary Figure 6.** Causal loop diagram for the lakes of the lake district ecosystem service of drinking water provision.



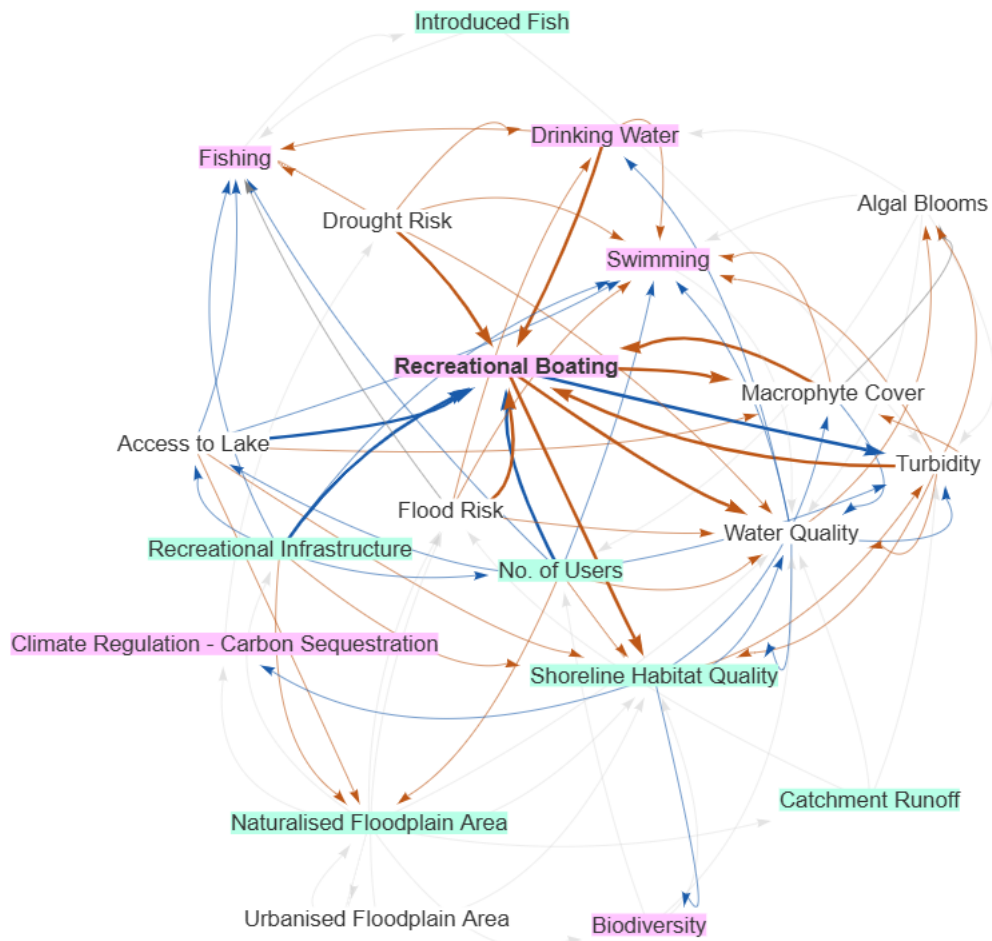
**Supplementary Figure 7.** Causal loop diagram for the lakes of the lake district ecosystem service of recreational fishing.



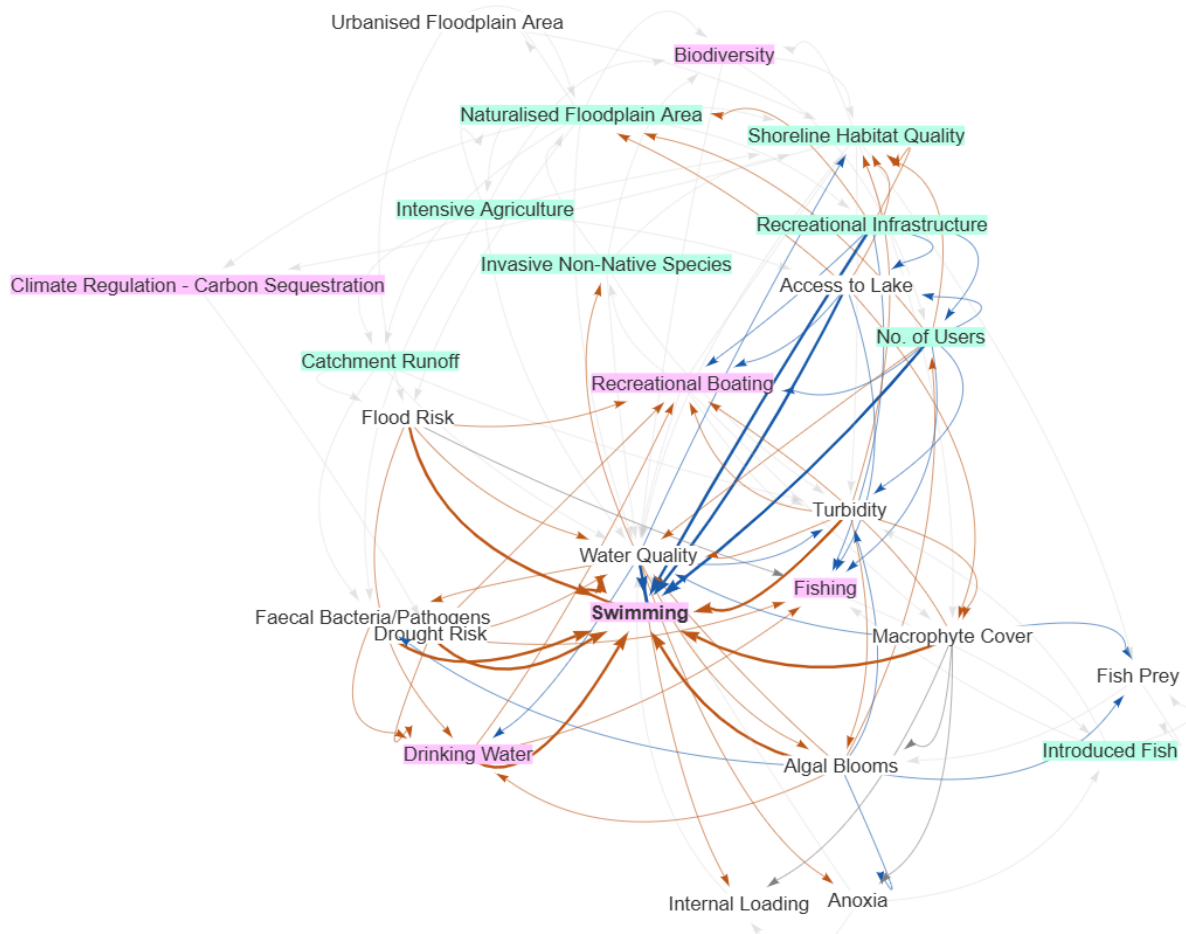
**Supplementary Figure 8.** Causal loop diagram for the lakes of the lake district ecosystem service of hydrological regulation.



**Supplementary Figure 9.** Causal loop diagram for the lakes of the lake district ecosystem service of nutrient regulation.



**Supplementary Figure 10.** Causal loop diagram for the lakes of the lake district ecosystem service of recreational boating.



**Supplementary Figure 11.** Causal loop diagram for the lakes of the lake district ecosystem service of recreational swimming.